

WE CLAIM:

1. A method of coating a light emanating component for an automobile lighting device, in which the light emanating component has at least first and second zones 5 which produce standard luminous intensity values, the method comprising the steps:

(a) providing a plurality of light emanating component samples having the first and second zones;

10 (b) providing the light emanating component samples with respective coatings by using a plurality of different coating processes;

15 (c) measuring luminous intensity values of the light emanating component samples produced at the first and second zones before and/or after the light emanating component samples are coated;

20 (d) preparing a first reference plot obtained by plotting the luminous intensity values produced at the first zone of the light emanating component samples versus the coating processes, the first reference plot including a first luminous intensity value which is measured at the first zone of one of the light emanating component samples that has not been coated;

25 (e) preparing a second reference plot obtained by plotting the luminous intensity values produced at the second zone of the light emanating component samples versus the coating processes, the second reference plot including a second luminous intensity value which is

measured at the second zone of one of the light emanating component samples which has not been coated;

5 (f) providing a bare light emanating component to be coated, the bare light emanating component having the first and second zones;

(g) detecting a third luminous intensity value produced at the first zone of the bare light emanating component;

10 (h) measuring a fourth luminous intensity value produced at the second zone of the bare light emanating component;

15 (i) preparing a first assumption plot which includes the third luminous intensity value but having a profile conforming to that of the first reference plot, and investigating which part of the first assumption plot meets a standard range of luminous intensity values;

20 (j) preparing a second assumption plot which includes the fourth luminous intensity value but having a profile conforming to that of the second reference plot, and investigating which part of the second assumption plot meets a standard range of luminous intensity values;

25 (k) selecting one of the coating processes which renders both of the first and second assumption plots to fall simultaneously within the standard range of luminous intensity values; and

(l) coating the bare light emanating component by

using the selected one of the coating processes.

2. The method as claimed in Claim 1, wherein the coating processes are conducted by forming different kinds of coatings, and each of the coating processes is carried 5 out by varying the thickness of the coating.

3. The method as claimed in Claim 2, further comprising preparing a diagram which includes first and second coordinate axes, the first coordinate axis including luminous intensity values, the second coordinate axis 10 being divided into a non-coated region, and a plurality of coating process regions each of which includes thickness values of coatings, the diagram further including a standard luminous intensity area which covers the standard range of luminous intensity values.

15 4. The method as claimed in Claim 3, wherein the first and second reference plots are formed separately on a first sheet and a second sheet.

5. The method as claimed in Claim 4, further comprising providing a single third sheet which bears the diagram, 20 wherein both of the first and second assumption plots are prepared on the third sheet, each of the third and fourth luminous intensity values being located in the non-coated region of the diagram on the third sheet, the third and fourth luminous intensity values being used as starting points for the first and second assumption plots, respectively, the first and second luminous intensity values being used as starting points 25

for the first and second reference plots, respectively.

6. The method as claimed in Claim 5, wherein the step
(i) includes stacking the first sheet and the third
sheet, and registering the first luminous intensity
value of the first reference plot with the third
luminous intensity value to copy the first reference
plot on the third sheet.

7. The method as claimed in Claim 6, wherein the step
(j) includes stacking the second sheet and the third
sheet, and registering the second luminous intensity
value of the second reference plot with the fourth
luminous intensity value to copy the second reference
plot on the third sheet.

8. The method as claimed in Claim 4, wherein said first
and second sheets are transparent plastic films.

9. The method as claimed in Claim 1, wherein each of
said light emanating component samples and said bare
light emanating component is formed as an inner lens
of a taillight of an automobile.

20 10. The method as claimed in Claim 1, wherein each of
said light emanating component samples and said bare
light emanating component is formed as an outer lens
of a taillight of an automobile.

25 11. A device for use in a method of coating a light
emanating component for an automobile lighting device,
in which the light emanating component has at least
first and second zones which produce standard luminous

intensity values, and in which the method includes the steps:

- (a) providing a plurality of light emanating component samples having the first and second zones;
- 5 (b) providing the light emanating component samples with respective coatings by using a plurality of different coating processes;
- 10 (c) measuring luminous intensity values of the light emanating component samples produced at the first and second zones before and/or after the light emanating component samples are coated;
- 15 (d) preparing a first reference plot obtained by plotting the luminous intensity values produced at the first zone of the light emanating component samples versus the coating processes, the first reference plot including a first luminous intensity value which is measured at the first zone of one of the light emanating component samples that has not been coated;
- 20 (e) preparing a second reference plot obtained by plotting the luminous intensity values produced at the second zone of the light emanating component samples versus the coating processes, the second reference plot including a second luminous intensity value which is measured at the second zone of one of the light emanating component samples which has not been coated;
- 25 (f) providing a bare light emanating component to be coated, the bare light emanating component having

the first and second zones;

(g) detecting a third luminous intensity value produced at the first zone of the bare light emanating component;

5 (h) measuring a fourth luminous intensity value produced at the second zone of the bare light emanating component;

10 (i) preparing a first assumption plot which includes the third luminous intensity value but having a profile conforming to that of the first reference plot, and investigating which part of the first assumption plot meets a standard range of luminous intensity values;

15 (j) preparing a second assumption plot which includes the fourth luminous intensity value but having a profile conforming to that of the second reference plot, and investigating which part of the second assumption plot meets a standard range of luminous intensity values;

20 (k) selecting one of the coating processes which renders both of the first and second assumption plots to fall simultaneously within the standard range of luminous intensity values; and

(l) coating the bare light emanating component by using the selected one of the coating processes;

25 wherein the device comprises at least one diagram which includes first and second coordinate axes, the first coordinate axis including luminous intensity

values, the second coordinate axis being divided into a non-coated region, and a plurality of coating process regions each of which includes thickness values of coatings, the diagram further including a standard luminous intensity area which covers the standard range of luminous intensity values, and at least one of the first and second reference plots, which is prepared by plotting the values on the first coordinate axis versus the values on the second coordinate axis.